



- Subject to modifications -



OL-feeding- and proportioning aggregate with feed monitoring device GOK-B

Use:

OL-aggregates are used, among others, to lubricate rolling bearings, toothed gears, slide strips, and tools.

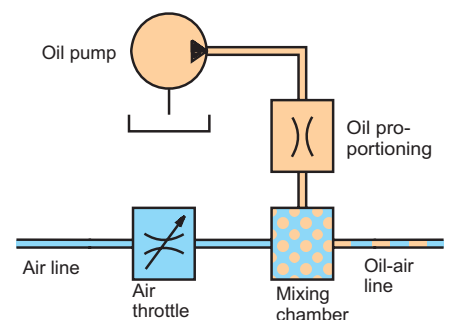
- **Smallest oil volume per time unit as a continuous oil flow**
- **Visual and electrical feed indication**
- **Proportioning volume per lubrication point can be selected**
- **Air volume per lubrication point individually adjustable**
- **Compact design**

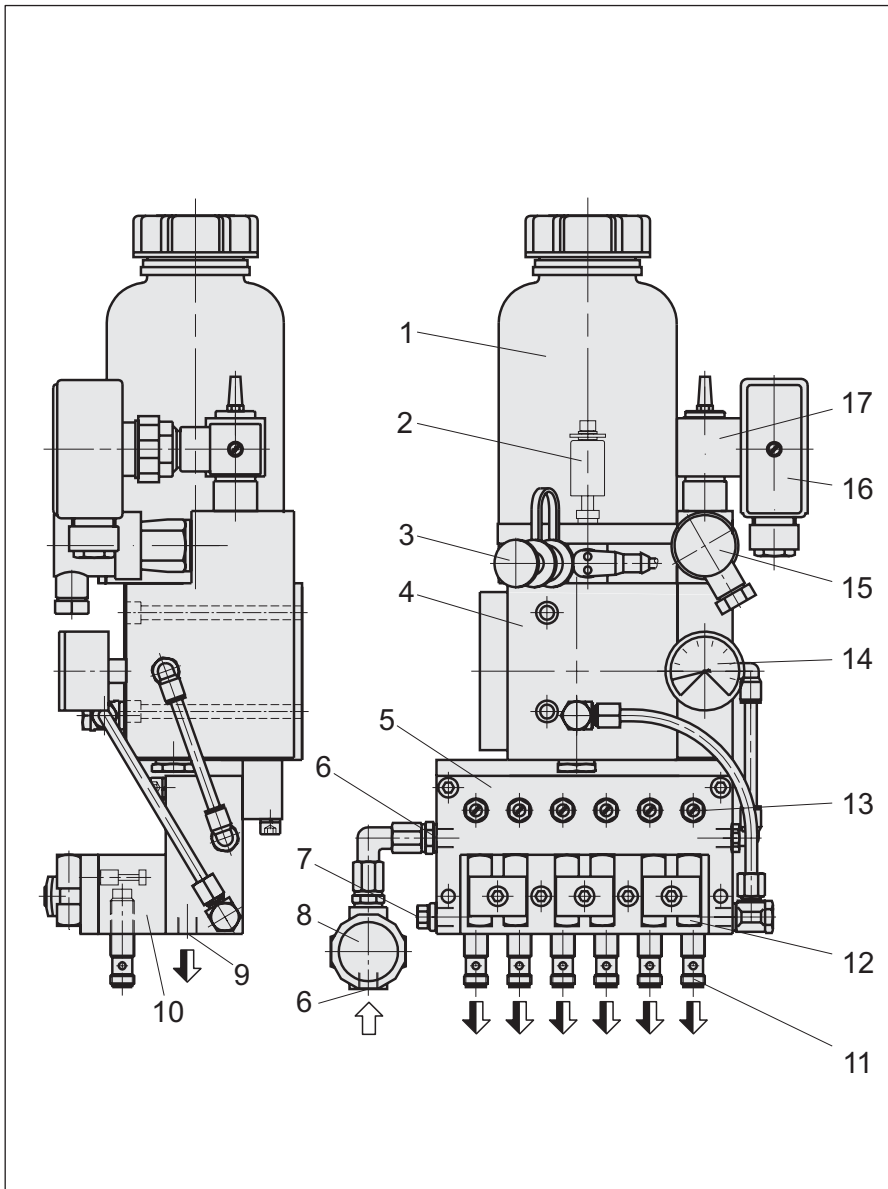
General description:

The GOK-B feeding and proportioning aggregate consists of a pneumatically actuated piston pump with reservoir and an OL-one-line distributor with visual / electrical feed monitoring.

OL principle:

In a mixing chamber, oil is proportioned and linked with an air stream. Such air stream serves to transport the oil to the lubrication point, whilst stretching the first oil drop generated into a thin lubrication oil film. This way, the bearing is supplied with a continuous oil flow of smallest volume. By virtue of the air fed in, an internal overpressure is generated in the bearing. Such pressure prevents dust from penetrating into the bearing from outside.





Note to illustration and schemes:

- | | |
|---|--|
| 1 Reservoir | 11 Initiator for feed checking |
| 2 Level switch | 12 Proportioning element DEB |
| 3 Filling supply | 13 Air throttle |
| 4 Feeding pump | 14 Gauge to indicate air pressure |
| 5 VOE-DOL-one-line distributor | 15 Pressure switch to monitor air pressure |
| 6 Air supply G1/8 | 16 Timer |
| 7 Vent screw | 17 3/2-port directional control valve |
| 8 Pressure regulator | 18 Mixing chamber |
| 9 Outlet G1/8 | 19 Indication pin |
| 10 Transparent block for visual feed monitoring | |

Technical data:

Number of outlets
 without housing 2; 4; 6; 8
 with housing 2; 4; 6

Proportioning volume
 per outlet and cycle:
 11; 22; 34; 57; 110; 170; 230 mm³

Air operating pressure
 max.: 10 bar
 min.: 3 bar

Oil operating pressure
 max.: 32 bar

Medium: Mineral oil

Viscosity: up to 3000 mm²/s

Reservoir capacity: 0,7 l

Temperature range: 0 ... +50 °C

Materials:

Pump and distributor: Aluminium/steel
 Reservoir: PE
 Display area: PMMA
 Casing "G": Steel sheet, varnished
 Casing "GF": Steel sheet, varnished
 Viewing glass: PC

Weight:

GOK-B without housing
 2 outlets: 5,0 kg
 4 outlets: 5,6 kg
 6 outlets: 6,2 kg
 8 outlets: 6,8 kg

GOK-B with housing
 2 outlets: 10,8 kg
 4 outlets: 11,4 kg
 6 outlets: 12,0 kg

Directional control valve:

Directional control valve actuation:
 Working time min.: 1 s
 Off-duty time min.: 10 s
 depends on lubricant volume needed

Standard voltage: 24 VDC

Power consumption: 5 W

other technical data:

Monitoring elements
 and timer: see page 4

Control unit with
 electronic evaluation: Leaflet-no. 0491

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Construction:

Every friction point the following elements are allocated to a lubrication point line, a proportioning element, an OL-mixing chamber, an initiator for monitoring the feeding function, and a throttle for air speed adjustment.

Functional description:

The OL-aggregate is connected to the compressed air network and to the machine's electric control unit.

The oil volumes fed to the lubrication points depend on the proportioning elements chosen and on cycle frequency.

The directional control valve **17** can be actuated from the machine directly or by means of an electric timer **16** integrated into GOK-B or a control unit fitted with an electronic evaluation capability (see separate leaflet).

By virtue of directional control valve actuation, the feeding pump **4** is pressurised with compressed air and makes a feed stroke, as a result of which oil is fed from the proportioning elements **12** to the mixing chambers **18**.

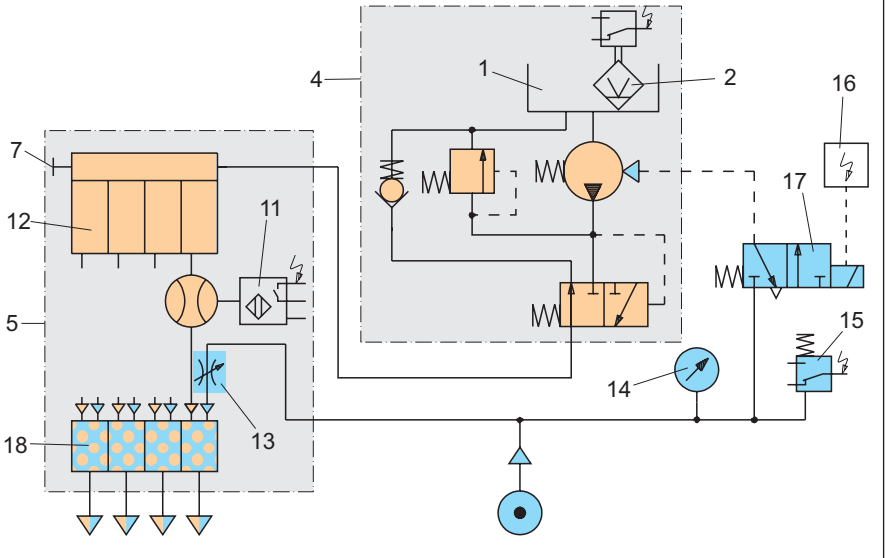
From mixing chamber **18**, the oil is transported via air stream to the lubrication point, then. Streaming velocity of the air can be adjusted by means of the built-in air throttles **13**.

After actuation completion by directional control valve **17**, the spring force causes the feed piston of feeding pump **4** to return into its home position and to draw oil from reservoir **1** at the same time.

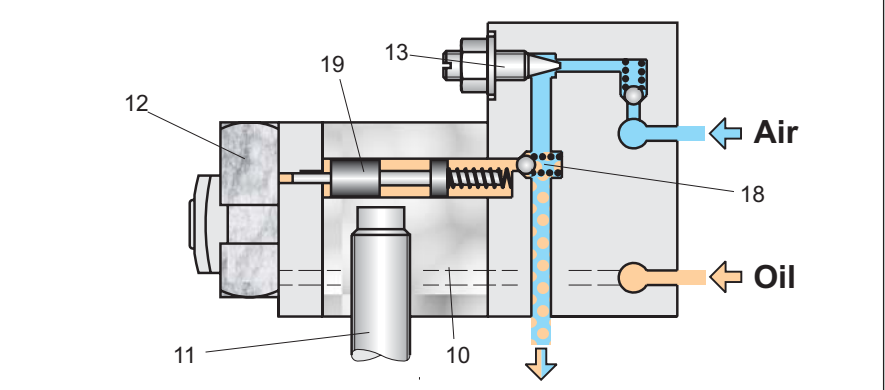
Feed monitoring:

The oil volume allocated by proportioning element **12** dislocates indication pin **19**. As a result, an externally mounted initiator **11** is attenuated shortly.

Overall unit functional scheme:



Feed monitoring functional scheme:



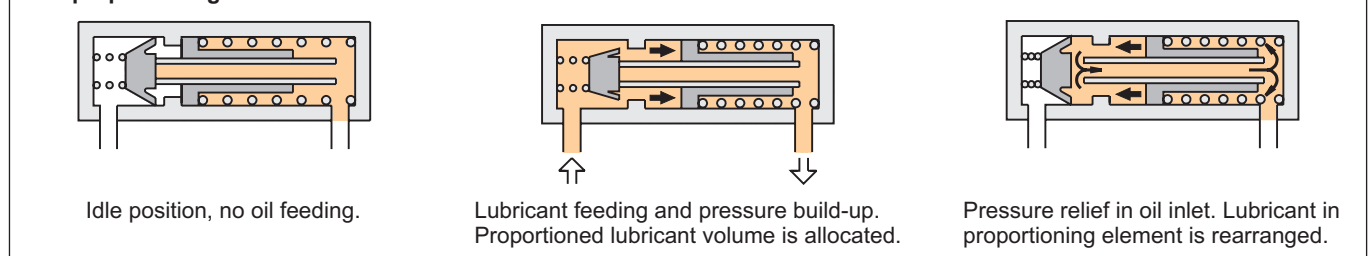
Venting:

- Loosen vent screw **7**.
- Switch compressed air supply on.
- Use directional control valve **17** to repeat feed pump **4** actuation until oil comes out free of bubbles.
- Screw down vent screw.

Note to operation:

- Fill in clean oil only
 - Filter compressed air
- Recommended oil and air filter fineness $\leq 25 \mu\text{m}$.
For use on fast running spindles, we recommend a filter fineness of $\leq 5 \mu\text{m}$.
Finest filtered medium contributes to extend the bearings' service lives.

DEB proportioning element functional scheme:



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Electrical time control unit variant (S):
Control unit with electronic evaluation capability: see leaflet-no. 0491

Timer variant (T):
Time switch functions:

The internal DIP switches 4 + 5 can be used to set two time switch functions:

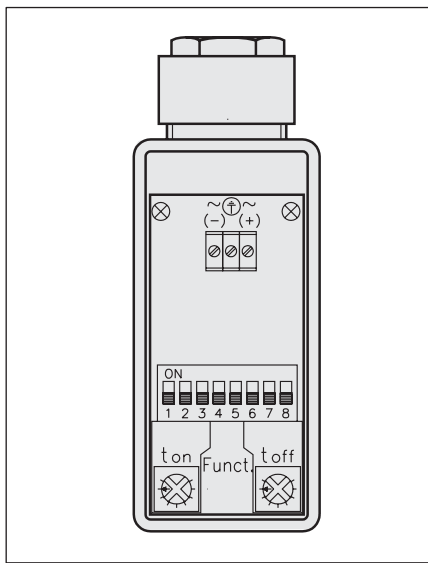
- Start with working time t_{on} (pump is actuated).
- Start with off-duty time t_{off}

Time setting:

 The DIP switches 1-3 and 6-8 can be used to separately set the time ranges for working time t_{on} and off-duty time t_{off} , respectively, while the times within the time ranges can be set at the potentiometers t_{on} and t_{off} .

Connection:

The unit is to be connected via terminals inside the casing. In case of AC, the unit is connected to terminals (-) and PE, whereas in case of DC voltage, terminals (+/-) and PE have to be used.



	Funct.	
	4	5
Start with working time t_{on}	<input type="checkbox"/>	<input type="checkbox"/>
Start with off-duty time t_{off}	<input type="checkbox"/>	<input type="checkbox"/>

	t_{on}			t_{off}		
	1	2	3	6	7	8
0,5 ÷ 10 sec	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,5 ÷ 30 sec	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 ÷ 100 sec	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0,5 ÷ 10 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1,5 ÷ 30 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 ÷ 100 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 ÷ 240 min	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0,5 ÷ 10 h	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Technical data:

Operating voltage:	24 ... 48 VDC
Power consumption:	1,0 W
Contact switching power at max.:	1,5 A; 48 VDC
Casing material:	Polyamide
Gasket:	NBR
Temperature range:	0 ... +55°C
System of protection:	IP 65

other voltages (230 VAC) available on request.

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Monitoring systems:
Feed monitoring:

The initiators serve to monitor oil feeding and oil proportioning by volume.

Electrical data:

Operating voltage:	10 ... 30 VDC
Residual ripple:	≤15%
Load current at max.:	130 mA
System of protection:	IP 67
Power supply:	Line socket 4-pin (M12)

Air pressure monitoring:

The air pressure required for pump actuation is monitored by means of a pressure switch.

Electrical data:

Switching voltage at max.:	230 VUC
Switching power at max.:	150 W 1000 VA
Switching current at max.:	4 A
Power supply:	Unit socket

Level switch:

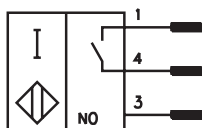
 In the bottom of the reservoir, a float switch with two switching points is mounted. ¹⁾

Switch point L1:	Break contact at min.
Switch point L2:	Break contact in case of pre-warning (approx. 0,1l before minimum level)

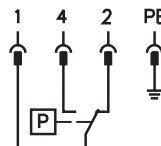
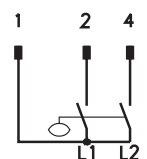
Electrical data:

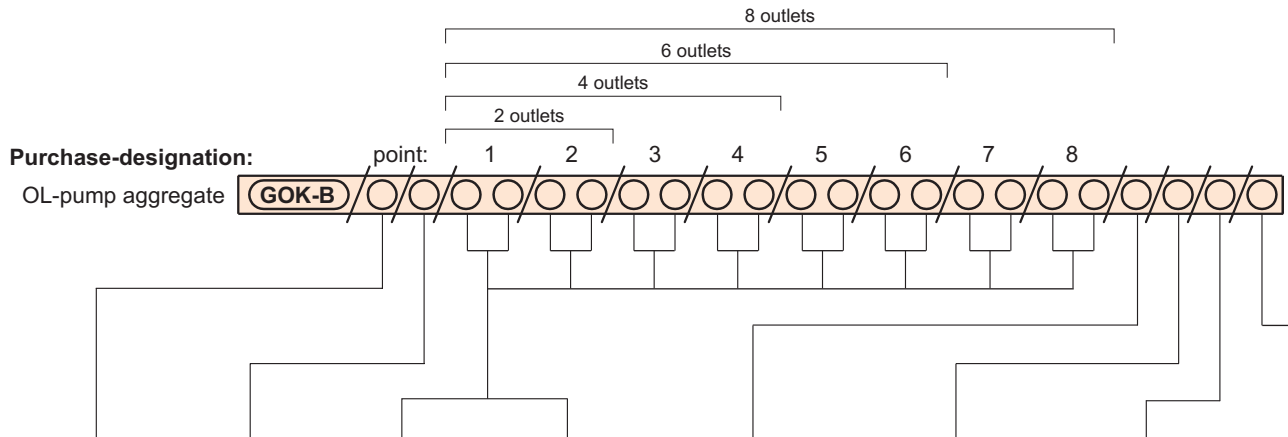
Switching voltage at max.:	30 VDC
Switching power at max.:	3 W
Switching current at max.:	0,25 A
Power supply:	line socket, 4-pin (M12)

Connection diagram:



Connection diagram:


 Connection diagram:
(reservoir empty)

¹⁾ Switching funktion at electrical time control variant "S" see Leaflet -no. 0491.



Casing	Number of outlets	Proportioning volume [mm ³] and feed monitoring per point		Reservoir	Auxiliaries	Electrical time control	Electrical voltage ³⁾
without casing ①	②	11 ①	without feed monitoring ① ¹⁾	0,7l reservoir without level monitoring ②	Pressure switch ③	Timer ④	24 VDC ⑤
Casing without viewing glass ⑥	④	22 ②					
Casing with viewing glass ⑦	⑥	34 ③	Point with visual indication and initiator ⑧ ¹⁾	0,7l reservoir with level monitoring ⑨	Pressure regulator ⑩	Control with electronic evaluation ⑪ ²⁾	
		57 ④					
		110 ⑤	Point with visual indication, without initiator ⑫ ¹⁾	without reservoir, threaded connection G1/4 ⑬	Filling connector ⑭ (multiple choice possible, e.g. "SB" or "SRB") without ⑮	without ⑯	other voltage available on request
		170 ⑥					
without casing ⑰	⑱	230 ⑦					
		without ⑲					

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¹⁾ Marks "N" and "L" can be used alternately.
At "L" marked points, initiators can be installed later on.
Mark "0" (without feed monitoring) cannot be combined with "N" or "L".

²⁾ Control "S" possible with casing "G" only.

³⁾ Input voltage of directional control valve, time control, and initiators:
For allowable input voltages of the monitoring devices see technical data sections.

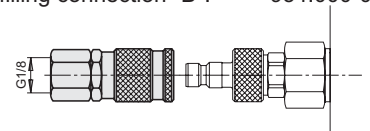
Auxiliaries: (state purchase-no, please)

For initiators:
Unit plug with cable 5m 913.404-46
(1x per initiator each)

For level switches:
Unit plug with cable 5m 979.044-73

Outlet screw joint:
Pluggable screw joint
for outer diameter 6 pipe 943.600-19
for outer diameter 8 pipe 943.600-21

Filling connection:
Quick release coupling for filling connection "B": 954.000-07



Purchase-example:

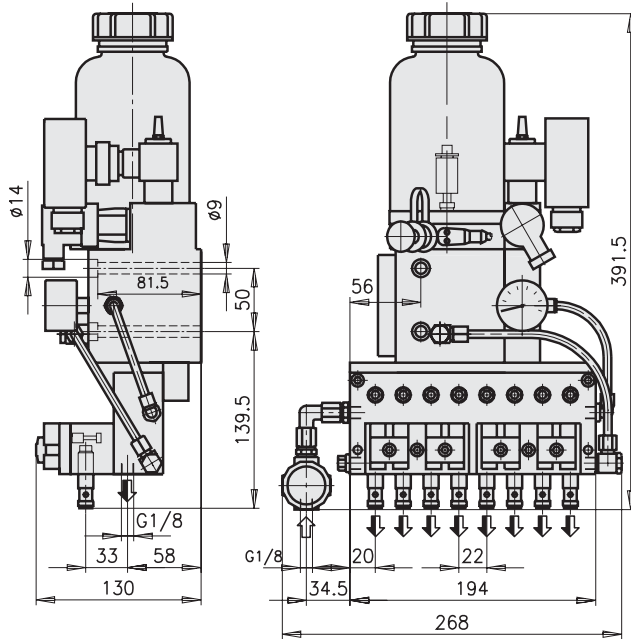
GOK-B OL-pump aggregate, casing with viewing glass, 6 outlets, proportioning volumes 57; 57; 110; 110; 230, and 22mm³, with initiators at points 1, 2, 3, and 6; with reservoir and level monitoring, pressure switch, pressure regulator, filling connector, time, and 24VDC electrical voltage.

Purchase-designation:

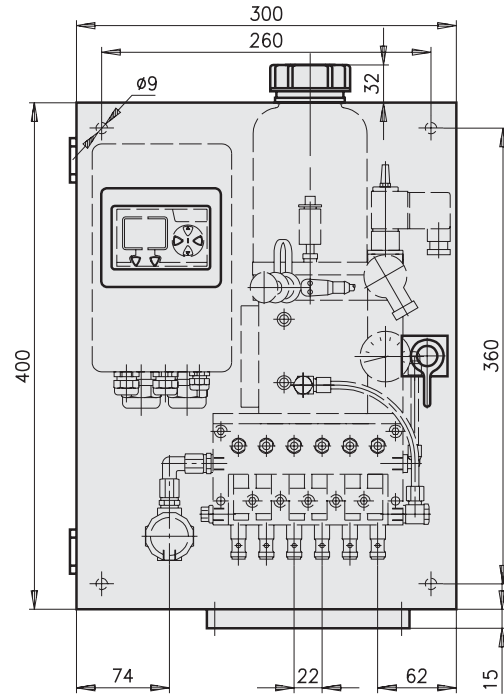
GOK-B / GF / 6 / 4N / 4N / 5N / 5L / 7L / 2N / BK / SRB / T / 24



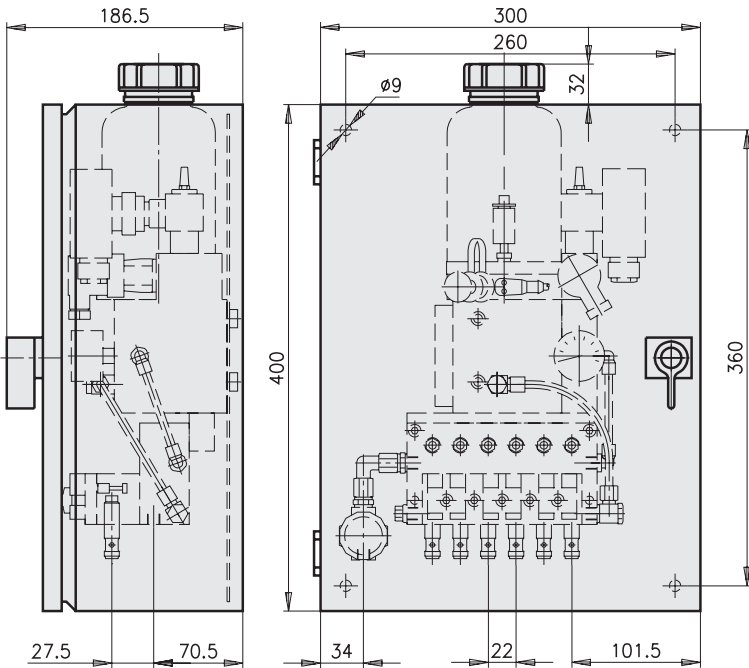
**Version - without casing "0",
with timer "T":**



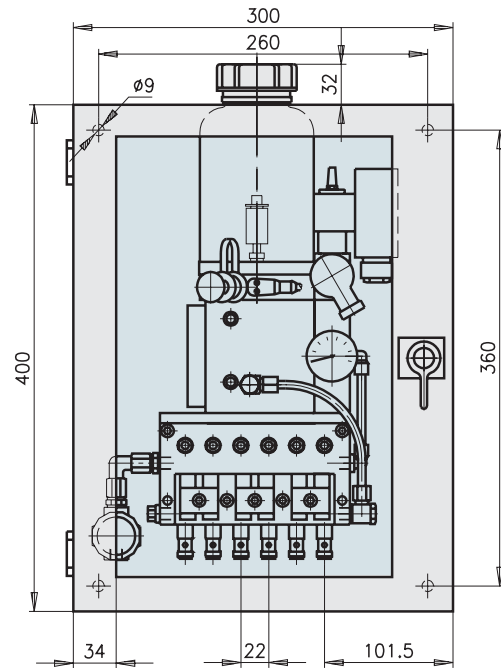
**Version - casing "G" and
control with electronic evaluation "S":**



**Version - casing "G"
and timer "T":**



**Version - casing "GS" (with viewing glass)
and timer "T":**



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